

Prac no 1(A):- LED Blinking Using Arduino in Wokwi

Aim:- To simulate the blinking of two LEDs using Arduino on the Wokwi online simulator and understand the working of digital pins.

<https://wokwi.com/projects/449323344623584257>

Prac no 1(B):- Add a Push Button to Toggle LED ON/OFF

Aim:- To interface a push button with Arduino and toggle an LED ON and OFF on each button press.

<https://wokwi.com/projects/449324607311696897>

Prac no 2(A):- Human Detection using PIR Motion Sensor and LED

Aim:- To detect human motion using a PIR motion sensor and indicate the detection by turning ON an LED using Arduino.

<https://wokwi.com/projects/449325677350202369>

Prac no 2(B):- Temperature and Humidity Measurement using DHT22 Sensor

Aim:- To interface the DHT22 sensor with Arduino Uno and measure real-time temperature and humidity values.

<https://wokwi.com/projects/449326572289037313>

Prac no 3(A):- LCD DISPLAY USING ARDUINO

To interface a 16×2 LCD display with an Arduino Uno and display text on the LCD using the **LiquidCrystal I2C** library.

<https://wokwi.com/projects/449327807141692417>

Prac no 3(B):- SPI Interface – Camera Module Integration

To interface a **camera module** (ArduCAM OV2640) with **Arduino UNO** using the **SPI communication protocol**, capture an image, and read basic camera information through serial communication.

Prac no 4:- Motion Detection Alert System using PIR Sensor, LED, and Buzzer

Aim:-To design a motion detection alert system using a PIR sensor, LED, and buzzer that activates a visual and sound alarm when motion is detected.

<https://wokwi.com/projects/449328742100506625>

Prac no 5:- 8x8 LED Grid Control (Matrix LED Programming)

To display patterns and animations on an 8×8 LED matrix using the MAX7219 driver and Arduino.

<https://wokwi.com/projects/450773705805714433> sss

PRac no 6 (A):- to interface a 4x4 or 4x3 matrix keypad with an arduino uno and read keypress inputs using the keypad library

<https://wokwi.com/projects/450774064368414721>

Prac no 6(B):- stepper motor control c/ac

<https://wokwi.com/projects/450773932423987201>

Prac 7(a):- to interface an ultrasonic sensor (hc-sr04) with an arduino uno and measure the distance of an an object using ultra sonic waves

<https://wokwi.com/projects/452038184635508737>

Prac7 (B):- temperature and humidity sensor with dht22 node -red for iot dashboard

<https://wokwi.com/projects/451198025736586241>

Prac8(A) :- gas leakage detection using gas sensor (mq series) and arduino

Aim;- to detect the presence of hazardous gas in the environment using an mq gas sensor

<https://wokwi.com/projects/454138122670792705>

Prac8(B):- the aim of this project is to design and simulate a mini piano using to generate different musical notes

<https://wokwi.com/projects/454139112249811969>